In the Claims:

Please amend claims 1, 13 and 14 to remove reference numerals as indicated in the following listing, which replaces all prior versions.

1. (Currently Amended) A method of manufacturing a semiconductor device ~~(10)~~ with a substrate ~~(1)~~ and a semiconductor body ~~(11)~~ which comprises at least one active semiconductor element, wherein, after the semiconductor element has been formed, a layered structure is provided comprising at least one electrically insulating layer ~~(2)~~ or one electrically conductive layer ~~(3)~~, wherein an opening is formed in the layered structure by means of a patterned photoresist layer ~~(4)~~ and an etch process, wherein residues ~~(6)~~ are formed at the surface of the semiconductor body ~~(11)~~ during the etch process, wherein the photoresist layer ~~(4)~~ is ashed, after the etch process, by means of a treatment with an oxygen-containing compound, after which the surface of the semiconductor body ~~(11)~~ is cleaned using a cleaning agent containing a diluted solution of an acid in water and being heated to a temperature above room temperature, as a result of which the residues ~~(6)~~ formed are removed from the surface, characterized in that sulphuric acid is chosen for the acid in the cleaning agent.

2. (Original) A method as claimed in claim 1, characterized in that a solution of exclusively sulphuric acid and demineralized water is chosen for the diluted solution of the acid.

3. (Original) A method as claimed in claim 1, characterized in that a solution of sulphuric acid and phosphoric acid in demineralized water is chosen for the diluted solution of the acid.

4. (Original) A method as claimed in claim 3, characterized in that the phosphoric acid concentration is chosen to range between 0.01 and 5% by weight, and preferably between 0.1 and 1% by weight.

5. (Previously presented) A method as claimed in claim 1, characterized in that the

sulphuric acid concentration is chosen to range between 0.01 and 10% by weight, and preferably between 0.5 and 5% by weight.

6. (Previously presented) A method as claimed in claim 1, characterized in that the temperature is chosen in the range between 20 and 60° C., and preferably between 30 and 45° C.

7. (Previously presented) A method as claimed in claim 1, characterized in that the cleaning operation is carried out for 2 to 30 minutes.

8. (Previously presented) A method as claimed in claim 1, characterized in that the cleaning step using the cleaning agent is followed by a rinsing step using demineralized water, and such a cycle of cleaning followed by rinsing is subsequently repeated a number of times.

9. (Original) A method as claimed in claim 8, characterized in that the cycle of cleaning step followed by rinsing step is repeated 2 to 4 times.

10. (Previously presented) A method as claimed in claim 1, characterized in that the cleaning process is completed by rinsing the semiconductor body with hot, i.e. 60 to 90° C. and preferably 70 to 75° C., demineralized water.

11. (Previously presented) A method as claimed in claim 1, characterized in that the cleaning step is carried out in a spray tool.

12. (Previously presented) A method as claimed in claim 1, characterized in that the layered structure is composed of at least one electrically insulating layer and at least one metal layer, and an electric connection of the semiconductor element is formed by means of the metal layer.

13. (Currently Amended) A method as claimed in claim 12, characterized in that the

electric connection is formed as a tungsten ~~(3B)~~-filled via ~~(5)~~ which is contacted at the upper side by means of an aluminum-containing or aluminum-copper-containing conductor track ~~(3C)~~ which leaves part of the tungsten ~~(3B)~~ uncovered.

14. (Currently Amended) An apparatus for use in a method as claimed in claim 1, comprising: a reservoir with concentrated sulphuric acid, a supply of demineralized water, a mixing unit for mixing sulphuric acid provided by the reservoir and demineralized water provided by the supply thereby obtaining the cleaning agent, and a cleaning station for receiving the semiconductor body ~~(11)~~ and the cleaning agent, the cleaning station being arranged to bring the semiconductor body ~~(11)~~ in contact with the cleaning agent.

15. (Original) An apparatus as claimed in claim 14, wherein the mixing unit is arranged for mixing of sulphuric acid between 0.01 and 10% by weight, and preferably between 0.5 and 5% by weight with demineralized water.